Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of operating a superconducting cable for transmitting electric power using a superconducting cable of a first and second circuits comprising:

~~using a conductor cooled by a refrigerant to transmit electric power;~~

cooling said superconducting cable of said first and said second circuits with a refrigerant, each of said first and second circuits having a respective refrigerator arranged in a refrigerant flow path on an upstream side of both of said superconducting cables of said first and second circuits, said flow path of said first and second circuits being connected to each other on the upstream side of said refrigerators, and said flow path of said first and second circuits being connected to each other on the downstream side of said superconducting cable; and

controlling the cooling by cooling said superconducting cable of said second circuit with refrigerant cooled by both of the refrigerators for sail first and said second circuits.

~~changing the refrigerant's temperature in accordance with a transmission capacity of a plurality of superconducting cables, each of the plurality of superconducting cable having a circuit;~~

~~providing each circuit with a refrigerator that cools the refrigerant for said circuit, and using the refrigerator of a failed circuit to provide refrigerant to a good circuit.~~

2. (Previously Amended) The method of operating a superconducting cable according to claim 1, characterized in that when a power demand from a load connected with the superconducting cable increases, the refrigerant temperature is reduced to increase the transmission capacity of the superconducting cable to transmit electric power matching the power demand.

3. (Previously Amended) The method of operating a superconducting cable according to claim 1, characterized in that when a power demand from a load connected with the superconducting cable decreases, the refrigerant temperature is increased to decrease the transmission capacity of the superconducting cable to transmit electric power matching the power demand.

4. (Previously Amended) The method of operating a superconducting cable according to claim 1, characterized in that

when one of the circuits fails, the refrigerant temperature of the good circuit is reduced below the temperature prior to the failure to increase the transmission capacity of the good circuit.

5. (Previously Amended) The method of operating a superconducting cable according to claim 4, characterized in that the refrigerant of the good circuit is cooled to a lower temperature than the temperature of the refrigerant prior to the failure.

6. (Previously Amended) The method of operating a superconducting cable according to claim 1, characterized in that a refrigerator capable of cooling substantially down to the freezing point of the refrigerant is used to change the refrigerant temperature between the boiling point and the freezing point of that refrigerant.

7. (Previously Amended) The method of operating a superconducting cable according to claim 1, characterized in that a high freezing point refrigerant is replaced with a low freezing point refrigerant and a refrigerator is used capable of cooling substantially down to or below the freezing point of the high freezing point refrigerant and the low freezing point refrigerant's temperature is changed between the boiling point and the freezing point of this refrigerant.

8. (Original) The method of operating a superconducting cable according to claim 1, characterized in that the refrigerant is one of liquid nitrogen, liquid air, liquid hydrogen, liquid neon, liquid helium, and liquid oxygen.

9. (Cancelled).

10. (Currently Amended) A superconducting cable system characterized by:

a plurality of superconducting cables connected by a parallel refrigerant flow path;

cooling mechanisms that cools a refrigerant for use with the respective superconducting cables, each of said cooling mechanisms being operatively coupled to each of said plurality of superconducting cables;

circulating mechanisms that circulate the refrigerant cooled by the cooling mechanisms to the superconducting cables; and

refrigerant route switching mechanisms which, when one of the superconducting cables becomes unavailable, allows a cooling mechanism of a failed superconducting cable to supply refrigerant to a remaining good superconducting cables.

11. (New) A method of operating a superconducting cable comprising:

providing a first and second superconducting circuits having a ~~conductor~~ superconductor cooled by a refrigerant having a refrigerant conveyed in a flow path;

providing a first refrigerator for the first superconducting circuit, the first refrigerator being located upstream from the first superconducting circuit in the refrigerant flow path;

providing a second refrigerator for the second superconducting circuit, the second refrigerator being located upstream from the second superconducting circuit in the refrigerant flow path;

providing a parallel refrigerant flow path for the refrigerant by connecting the flow path of the refrigerant upstream from the first and second refrigerators and downstream from the first and second superconducting circuits; and

cooling the first superconducting cable with the refrigerant from the first and second refrigerator by separating the refrigerant flow path for the second superconducting circuit from the refrigerant flow path for the first superconducting circuit flow.

12. (New) The method of operating a superconducting cable according to claim 11, characterized in that when a power demand from a load connected with the superconducting

cable increases, the refrigerant temperature is reduced to increase the transmission capacity of the superconducting cable to transmit electric power matching the power demand.

13. (New) The method of operating a superconducting cable according to claim 11, characterized in that when a power demand from a load connected with the superconducting cable decreases, the refrigerant temperature is increased to decrease the transmission capacity of the superconducting cable to transmit electric power matching the power demand.

14. (New) The method of operating a superconducting cable according to claim 11, characterized in that

when one of the circuits fails, the refrigerant temperature of the good circuit is reduced below the temperature prior to the failure to increase the transmission capacity of the good circuit.

15. (New) The method of operating a superconducting cable according to claim 14, characterized in that the refrigerant of the good circuit is cooled to a lower temperature than the temperature of the refrigerant prior to the failure.

16. (New) The method of operating a superconducting cable according to claim 11, characterized in that a refrigerator capable of cooling substantially down to the freezing point of the refrigerant is used to change the refrigerant temperature between the boiling point and the freezing point of that refrigerant.

17. (New) The method of operating a superconducting cable according to claim 11, characterized in that a high freezing point refrigerant is replaced with a low freezing point refrigerant and a refrigerator is used capable of cooling substantially down to or below the freezing point of the high freezing point refrigerant and the low freezing point refrigerant's temperature is changed between the boiling point and the freezing point of this refrigerant.

18. (New) The method of operating a superconducting cable according to claim 11, characterized in that the refrigerant is one of liquid nitrogen, liquid air, liquid hydrogen, liquid neon, liquid helium, and liquid oxygen.